



Matériel Readiness Modeling Offsite

*...understanding
and improving readiness
in the Marine Corps*

11 January 2005



**United States Marine
Corps**

Michael A. Williamson,

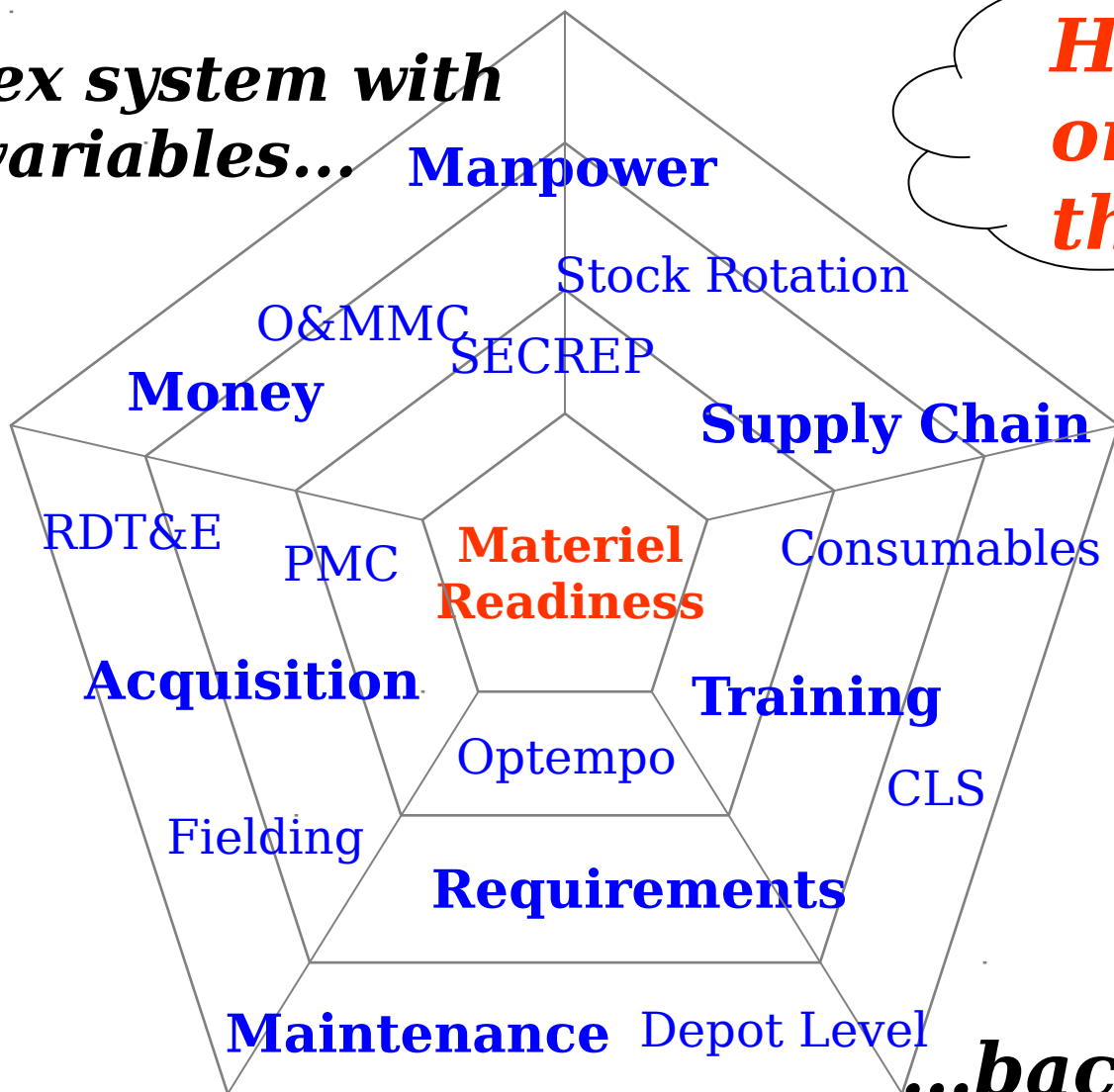


..agenda

- **What problems needed solving?**
- **What actions were taken?**
- **Results and demonstrations.**
- **Moving forward.**



Complex system with many variables...



***Challenge
...what drives
readiness***

***How does
one analyze
this?***

...background



Challenge ...reporting & visibility the old way

C:\WINNT\System32\CMD.exe

UNCLASSIFIED Unit Status 8 Mar 01
* MCREM *

USMC

MCB-3000 TAMs, TAMCNs: E0942 / E0946 / E0947 / E0948 / E0949 / E0950
(as of 2 Mar 01)

LAU RECOVERY (E0950)
Component: Active

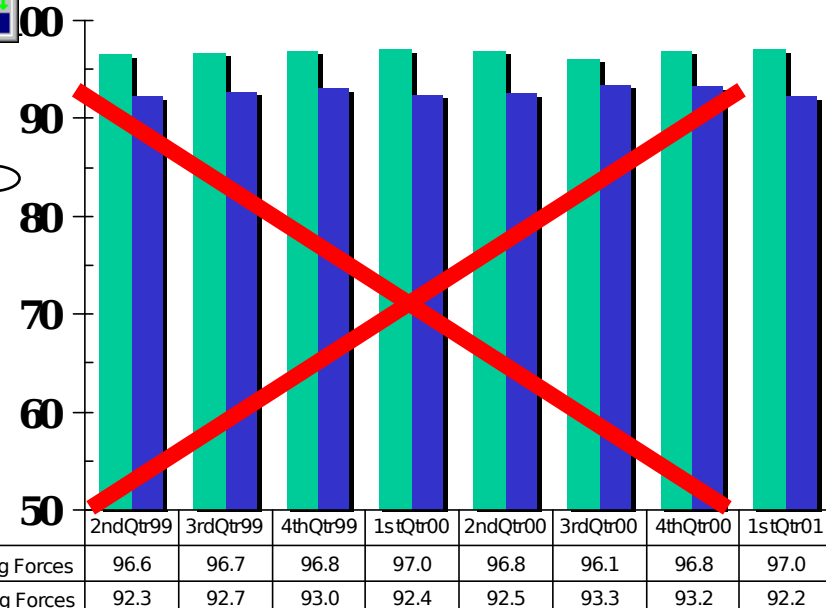
UIC	Name	Auth items	Onhand items	OpRdy items	R-rating <% OH>	MEF
M11700	1ST LAR BN	3	3	1	33.3%	1
M34014	EEAP CC MCAG CC	2	2	1	50.0%	8
M12190	2ND LAR BN	3	3	2	66.7%	2
M11110	BLT 1/1	1	1	1	100.0%	1
M11130	BLT 3/1	1	1	1	100.0%	1
M13210	BLT 2/1	1	1	1	100.0%	1
M13700	3RD LAR BN	5	5	5	100.0%	1
M21500	1ST RADIO BN	1	1	1	100.0%	5
M21800	CAB 3RD MARDIU	1	1	1	100.0%	3
M54007	OBREGON	1	1	1	100.0%	6
M54010	HAUGE	1	1	1	100.0%	6
TOTAL		22	22	18	81.8%	

13 units Press Cursor key, P, or F1 for help row # 1

Weekly
reports. No
history or
user friendly
displays

75 day old
Marine Corps
roll-up

No management
value!





...what's the right readiness measure?

Lets see...13% deadlined means 87% up, with 90% T/E...that gives an overall rating of...how do I do this? That's right, $.9 \times .87 = 78\%$!

We have a problem! Fix it!

We have 90% of our auth assets! Readiness is OK.

We have 13% of on-hand deadlined —not great but still OK.

Supply Officer

Maintenance Officer

Commanding Officer



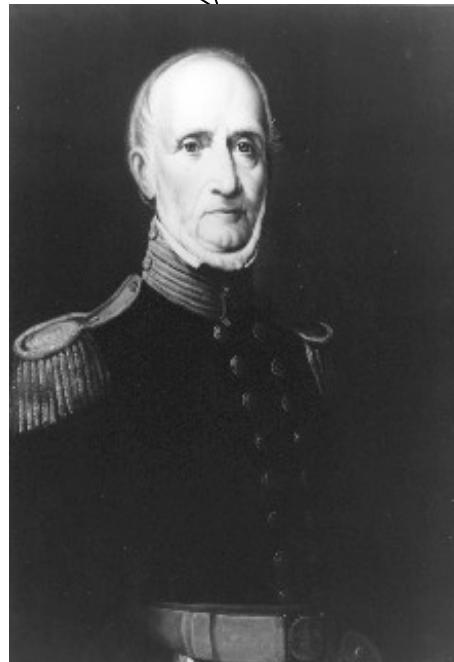
Challenge ***...what's the best bang for the buck?***

How can I afford the capability I need to accomplish my missions?

I need more capability!



Operating Forces



Commandant

You only have \$24.37 in the coffers!



Comptroller



Action ...materiel readiness integrated process team

- **Examine policy, processes and practices**
- **Define the gaps**
- **Determine what drives readiness**
- **Recommend solutions**
- **TAKE ACTION!**



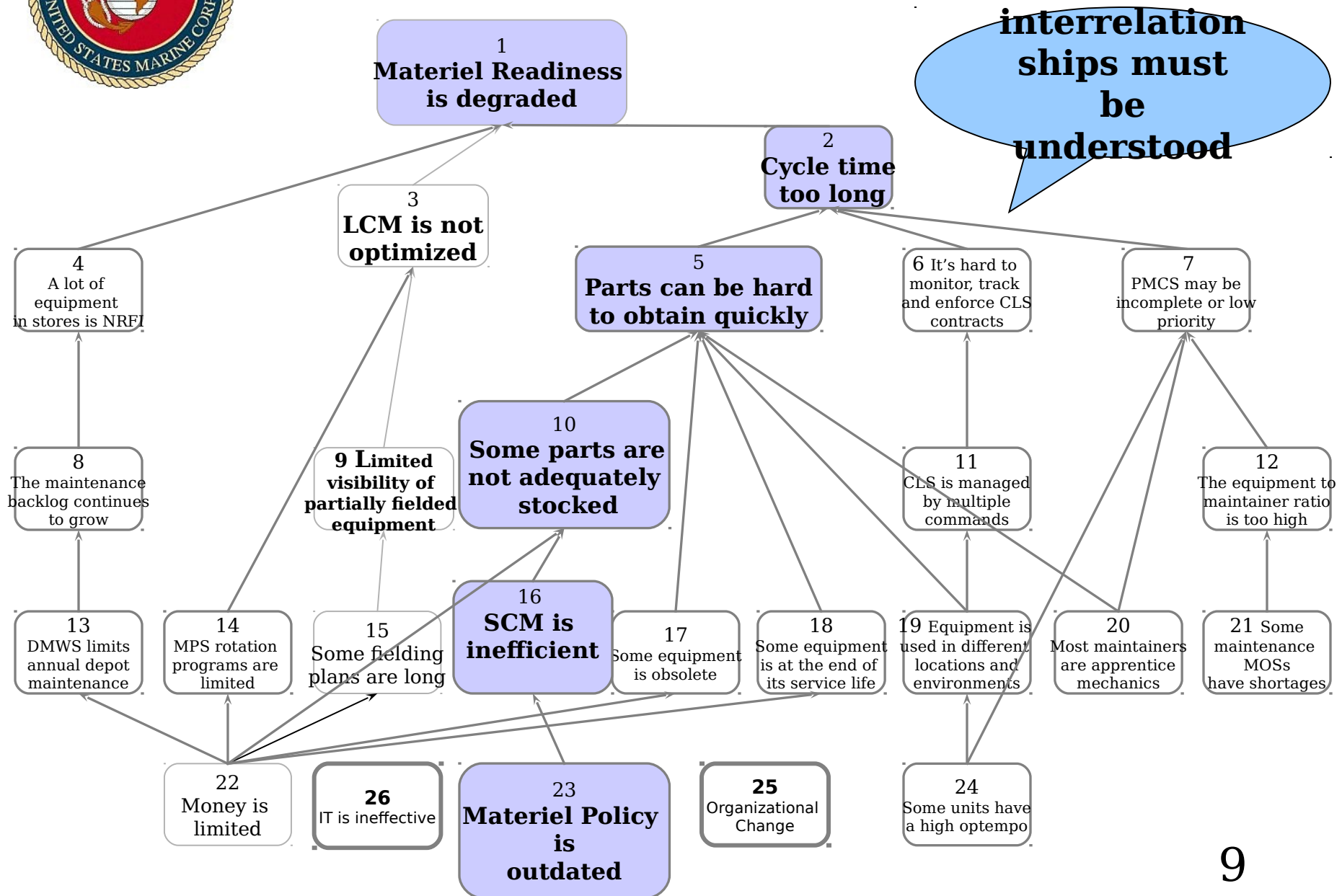
Action ...IPT initial recommendations

- ✓ **One readiness watch required**
- ✓ **Must share information across all levels**
- ✓ **Process improvement necessary**
- ✓ **Policy changes needed**



Results

...readiness drivers determined





Results

...a prioritized roadmap for improvement

Matériel Readiness

Transition Data Elements

ERO/WON
Parts Trailer
LM4 Remarks

Supply Chain Management

Depot Level Maintenance

Life Cycle

In Stores

Policy

External

Equipment Posture

Functional
Areas
Equipment
Type

MEF, MSC,
Unit

Unit Posture

Functional Areas
Equipment Type

**Current
Historical
Trends**

**SECREP
Consumables
Backorders
CLS**

Requirements
Planning
Production

Program Status
Engineering Specs
Funding

Identify MR relevant
Determine
impact
Recommend change
Monitor impact on

MCCDC
HQMC(M&RA)
TECOM
MARFOR
ONR

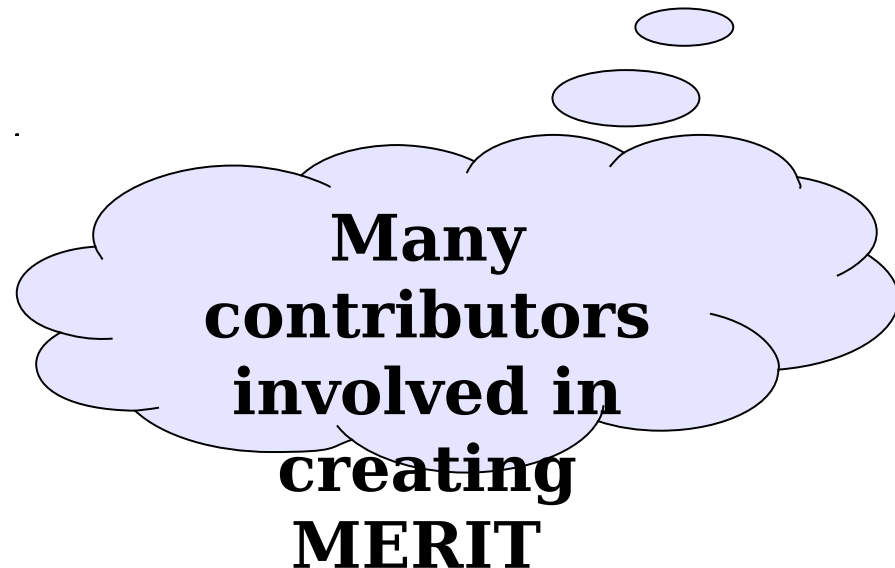
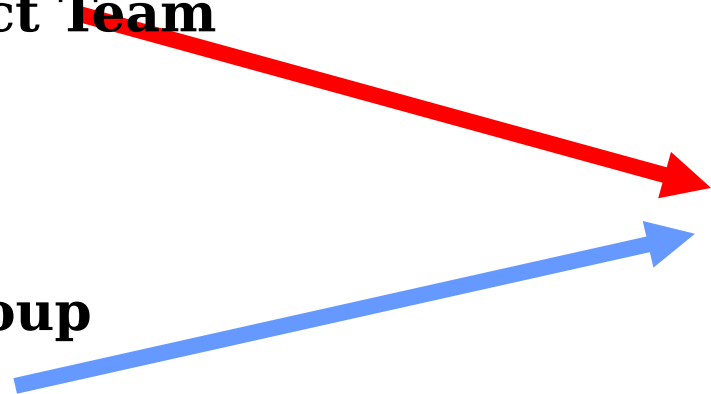
MR reporting policy
Requirement
Surplus & Disposal



Action *...MERIT evolves*

**Matériel Readiness
Integrated Product Team**

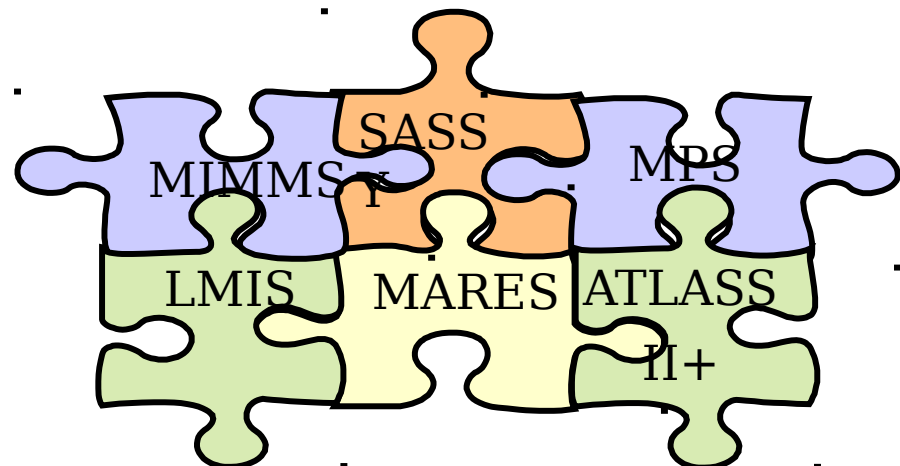
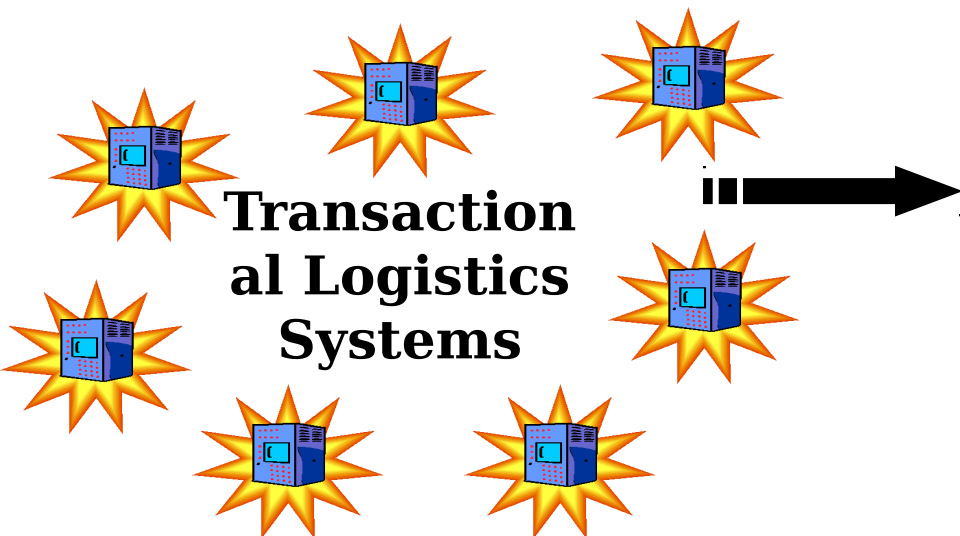
Requirements Group



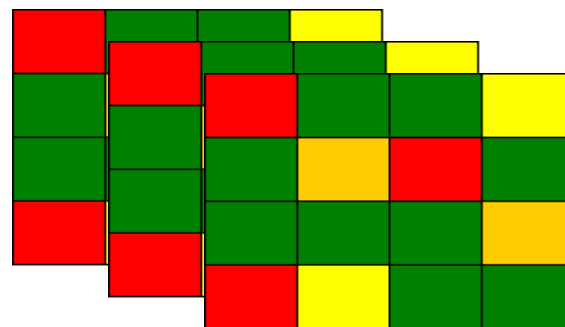


Action

...MERIT technical approach



Integrated Data (Oracle 9I)



Data Visualization (COTS)



User Friendly WEB Enabled



Action
...an iterative and responsive process

Teams

**Business Rules,
Process Change**

Tool Design

Rapid Prototype Effort

Implement

**..compressed
development
cycles and
customer
involvement
were keys**

URL: <https://merit.logcom.usmc.mil>



Results ...agile development is responsive

- ***Program Initiation*** ***01 Oct 02***
- **Initial Operating Capability:** **20 Dec 02**
- **Phase I Completion: 1.1.0.0** **28 Mar 03**
- **Release of Version 1.2.0.0** **28 Aug 03**
- **Phase II Completion:** **01 Oct 03**
(Release of Version 1.2.1.0)
- **Release of Version 1.2.2.0** **29 Oct 03**
- **Release of Version 1.2.3.0** **28 Jan 04**
- **Release of Version 1.2.4.0** **18 Aug 04**
- ***Release of Version 1.2.5.0*** ***15 Jan 05***
- **Release of Version 1.3.0.0** **28 Mar 05**



Results *...demonstration*

MARINE CORPS EQUIPMENT READINESS INFORMATION TOOL

WINNER!

2004

- **Dept of the Navy eGov Award**
- **Dept of Defense CIO Award**
- **AFEI Excellence in Enterprise Integration - First Place**
- **Government Computing News Award - New Applications**

2003

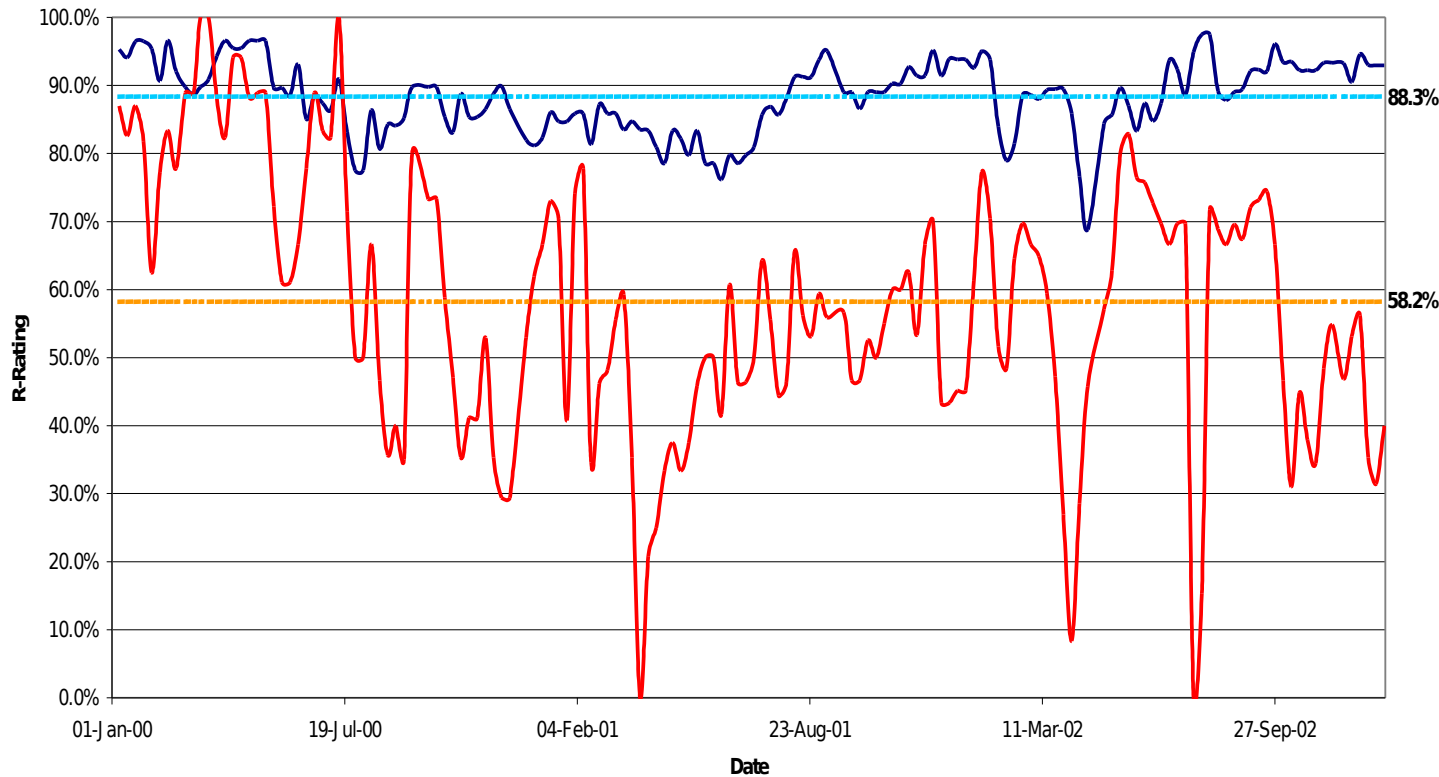
- **AFEI Excellence in Enterprise Integration - Runner Up**

<https://merit.logcom.usmc.mil>



Forward ...depot maintenance contribution to readiness is measurable

Comparison Between I MEF E0947 (LAV-25) Items that Have and Have Not Gone Through Depot Level Maintenance (DLM)



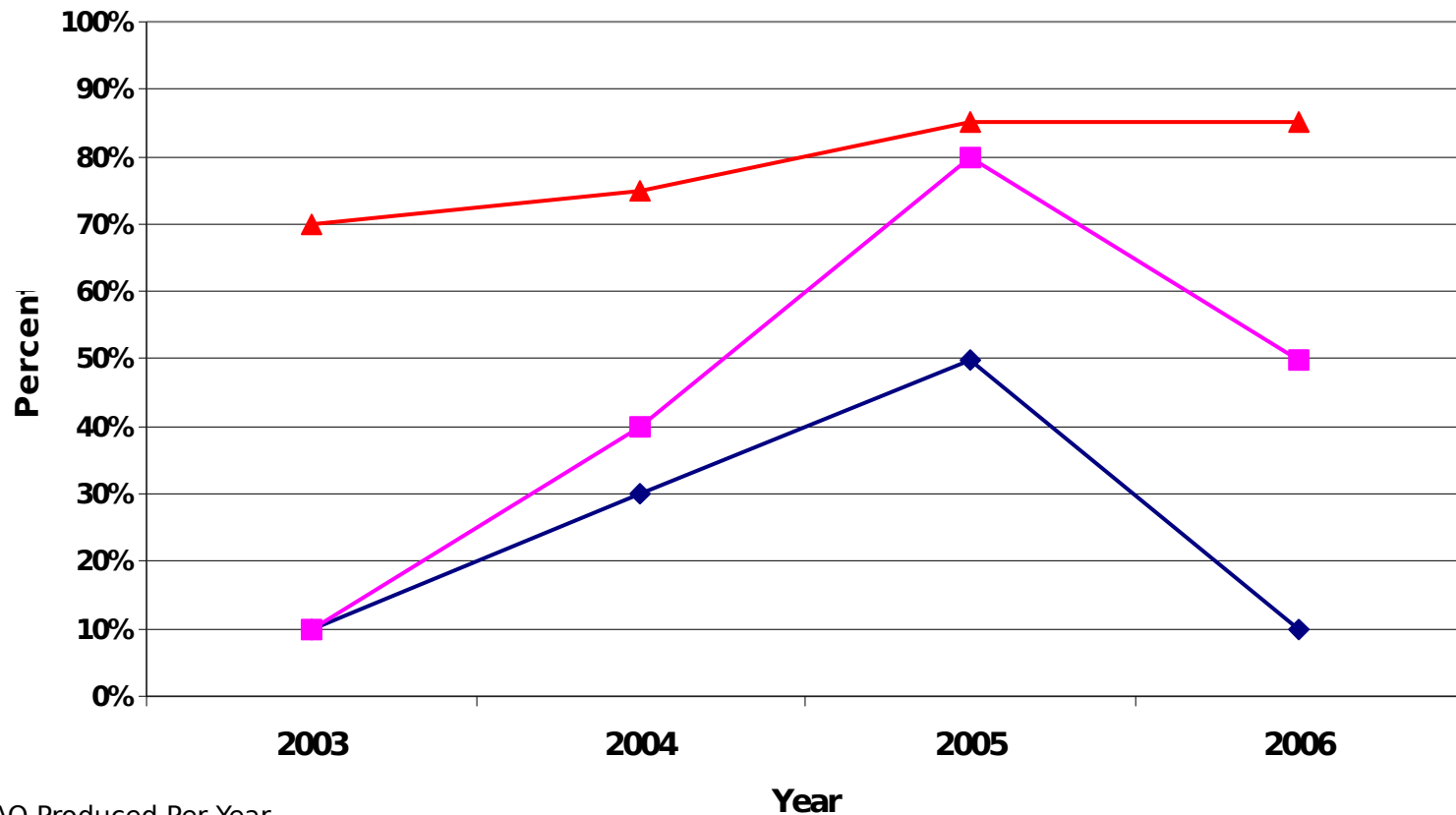
**Increase
Of 30
Percentage
Points**

I MEF LAV-25 R-Ratings for DLM and Non-



Forward ...readiness return is predictable

IMEF LAV-25

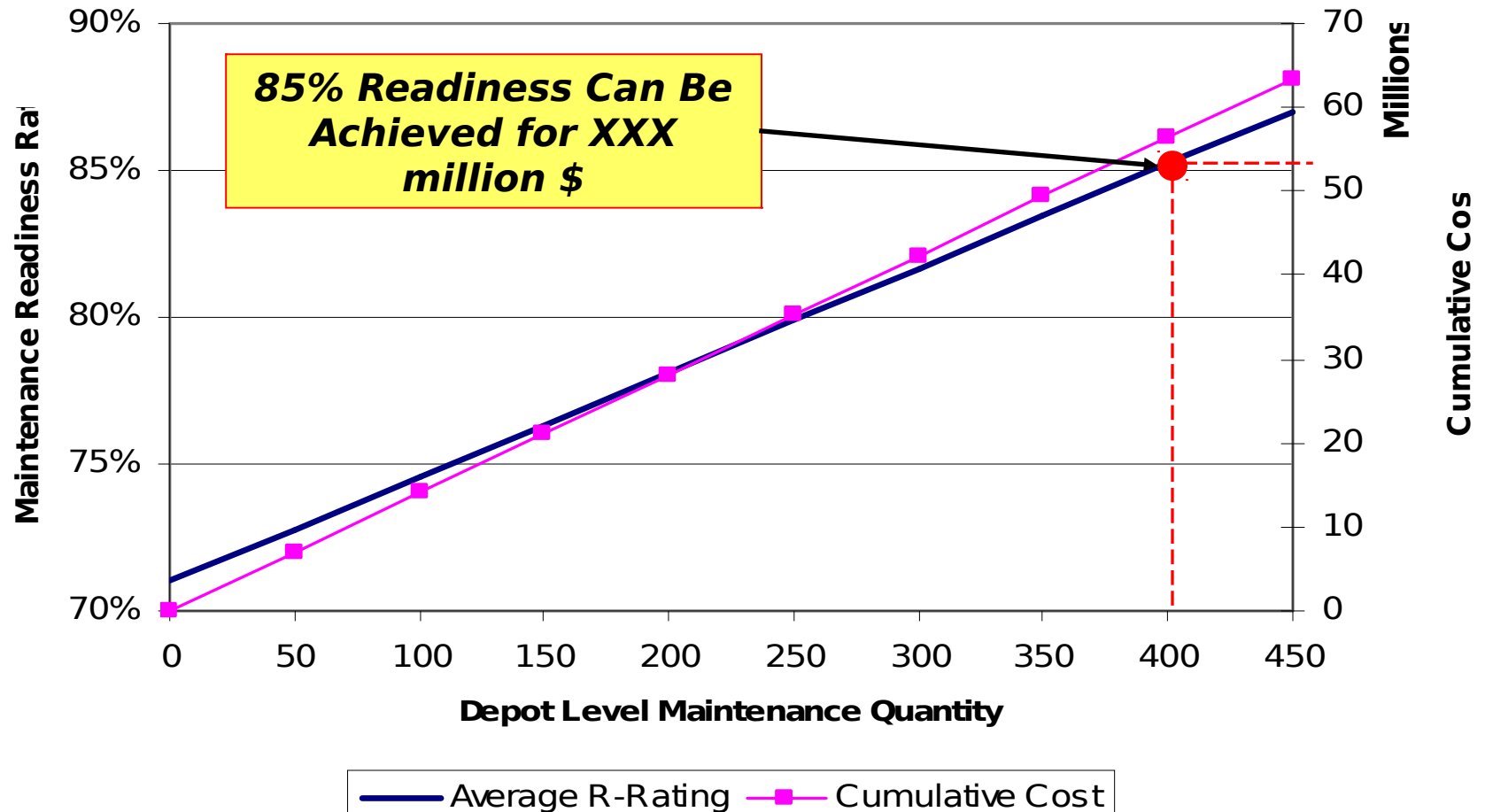


- % AAO Produced Per Year
- % AAO Through DLM within last five years
- Average R-Rate



Forward ...decisions based on predictable outcomes

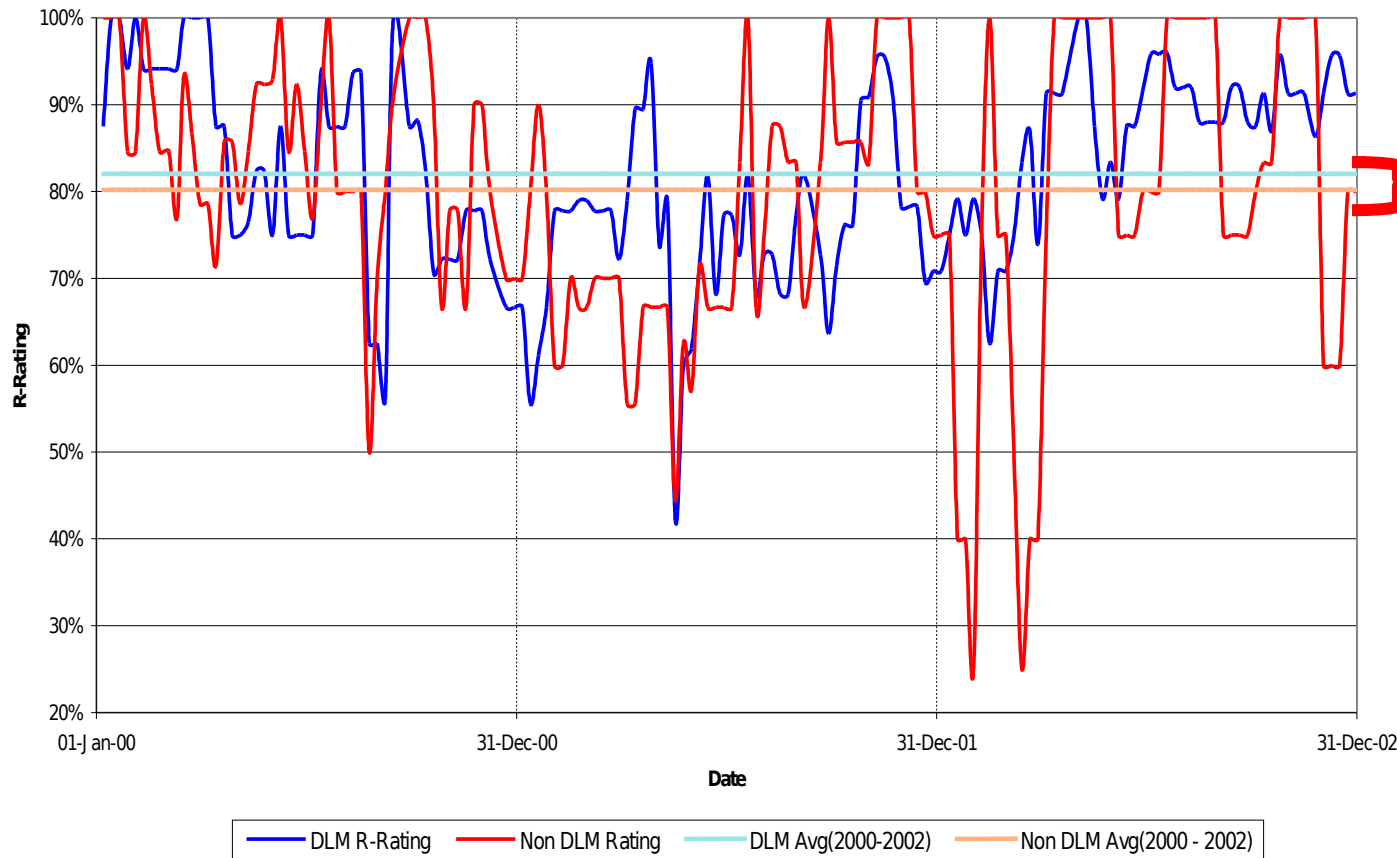
MK-48 Power Unit (D0209)





Forward ...depot maintenance contribution to readiness is measurable

Readiness Comparison between I MEF E0942 items that Have
and Have NOT Undergone DLM



**Increase
of only 2
percentage
points**

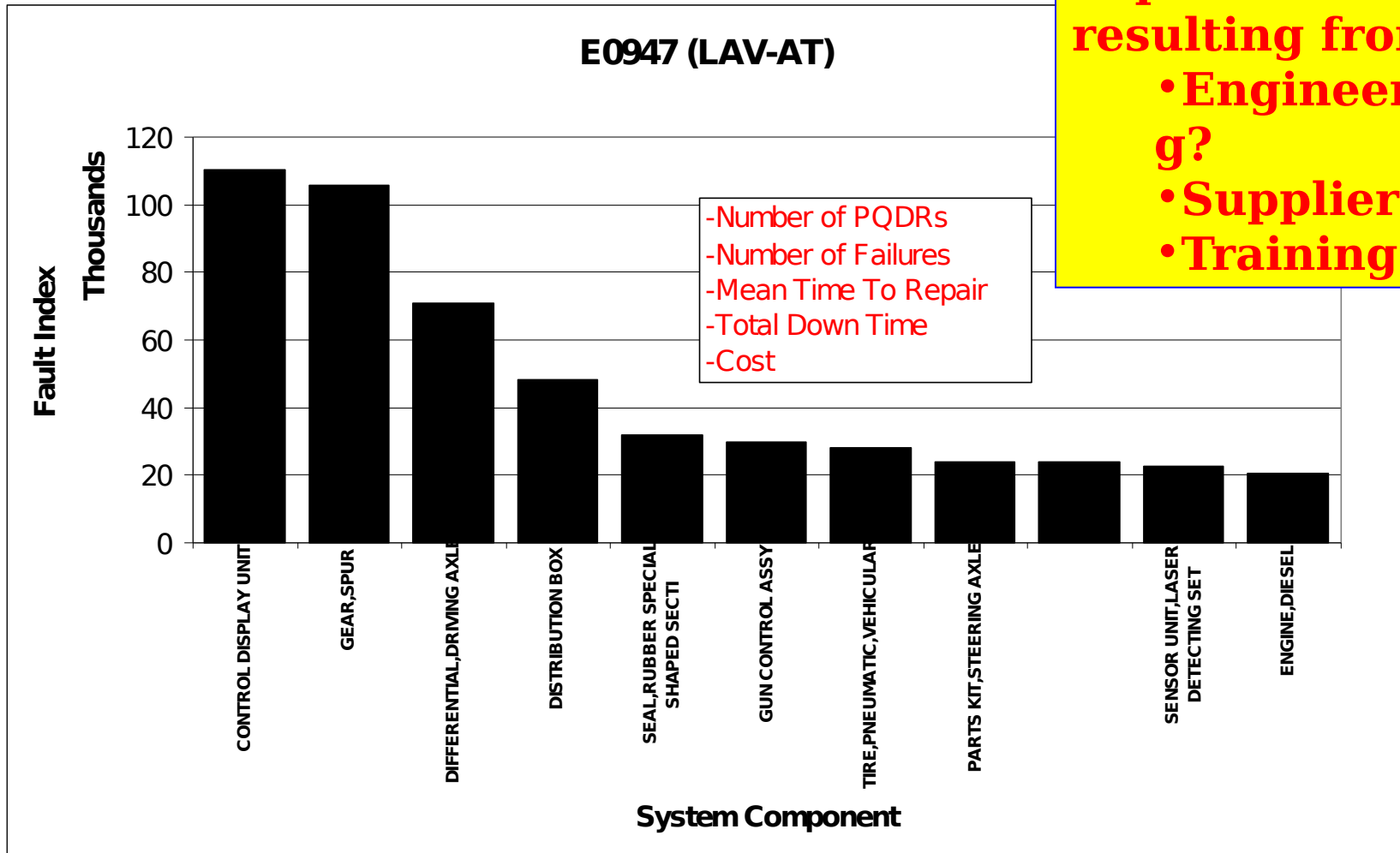
I MEF LAV-AT R-Ratings for DLM and Non-DLM



Forward ...Fault Isolation Model identifies major readiness degrades

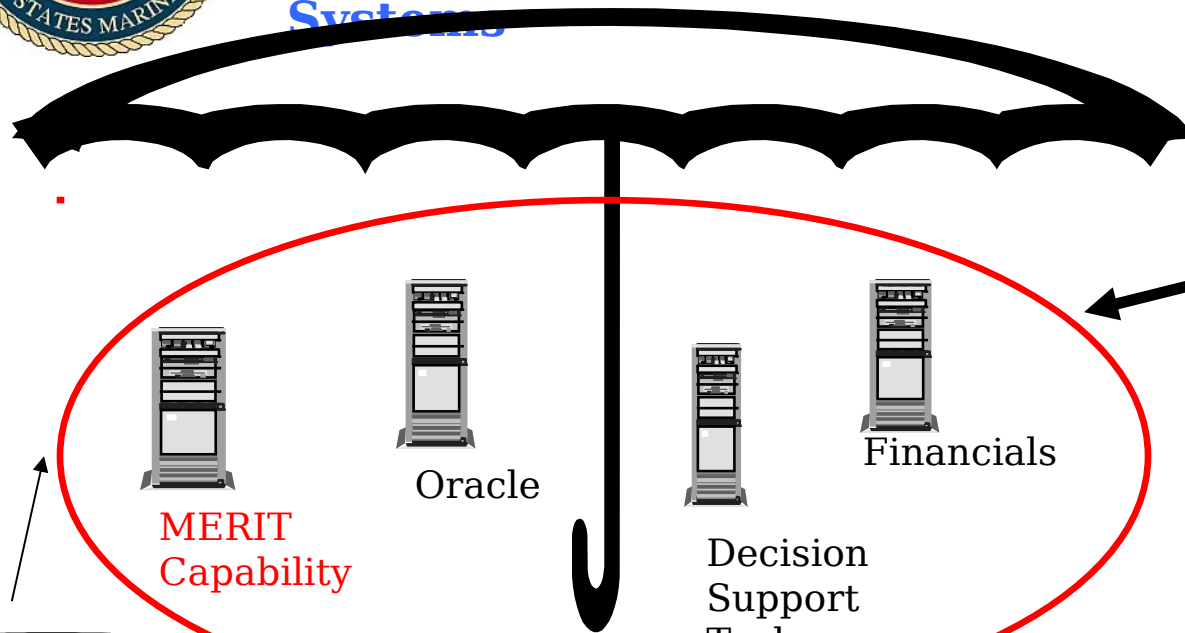
**Is problem
resulting from:**

- **Engineering?**
- **Supplier?**
- **Training?**





GCSS-MC Portfolio of Systems



*Forward
...MERIT
capability
provided
tomorrow*

GCSS-MC SDE

Provides A



Web Enabled
Readiness
Capability



GCSS-MC Unit Level Drill Down through
GCSS-MC Web Browser



Forward ...partnering for greater success

- **Engineering Analysis**
 - *NSWC, Crane*
- **Cost Analysis**
 - *VAMSOC, Navy*
- **Asset Visibility**
 - *BCS3, Army*
 - *GTN 21, Transportation Command*

- **Reliability, Availability, Maintainability Analysis**
 - *Systems Command*
- **Field process analysis**
 - *Log Modernization Team*
- **Supply chain performance improvement**
 - *DLA*



The end ...quotes from our users

“This is the type of software that we should expect in the age of computers. This should significantly improve our efficiency across the board. “

Col R. S. Navarre, Reg Cmdr 1stMarDiv

“You may have no idea how valuable your work is... an idea that has been long overdue...your efforts have already proven themselves in Operation Iraqi Freedom reconstitution effort”

Major Greg Frich, 1st MARDIV

“This program will help us a great deal to reset the Group to pre-war readiness levels.”

Major Fabiano, 1st FSSG

“The facts that MERIT will save both time and money are indisputable.”

Vic Poillucci, MCSC (NG)

“Can’t live without it!”

LtCol Rick Byno, I MEF Deployed